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THE GENESEE FARMER.

SATURDAY, SEPTEMBER 8, 1838.

FLIGHT OF GRASSHOPPERS.

The warm, dry weather of the present season has been favorable to the propagation and growth of these depredators, and in some sections of the country they have been productive of much injury. In their general habits they are much assimilated to the locost of Asia and Africa, and the present season has developed their migratory powers in an unprecedented degree. It seems from the Lancaster (Pa.) and Frederick (Md.) papers, that the grasshoppers, after having devoured the pastures of those sections, have taken wing in immense numbers for other as yet unvisited places. The Lan. Jour. says:—"About noon on Wednesday (Aug. 8th) a cloud of grasshoppers passed over the city of Lancaster. Their course was from the north-east to the south-west. As we did not see the whole of the procession, we cannot say how long they were in passing, or what were the objects of their journey. The appearance of these insects was singular and beautiful. Their glossy transparent wings shone in the sunlight like stars, and their twinkling completed the illusion." At Frederick the greatest appearance of their flight was on Thursday the 9th. The number floating was immense, and though the fact was not known at the time, it seems very probable that the clouds of them observed at Lancaster, were the same seen at Frederick making a very respectable flight for twenty-four hours. The Frederick paper says, 'birds were hovering around them picking up stragglers, and some came as low as the house tops. Their appearance was very splendid, and attracted the notice of all.'

The migration of grasshoppers we have observed several times, and it appears to be governed by the same causes that impel the locusts of the Eastern world in their devastating movements. When hot and dry weather succeeds their hatching from eggs deposited in the ground the previous year, they quickly obtain a size and strength that enables them to set the ordinary chances of the summer season at defiance, but which, in less favorable circumstances, would prove fatal to many, or the most of them. The dry weather that hastens their growth, operates to prevent a proper supply of food, and thus causes or hastens their migrations. About noon or a little before, on a hot dry day with little wind, the observer will see now and then one rising from the earth, and in a kind of circling flight, rising high into the air. The number will rapidly increase, until the whole atmosphere seems filled with them, or until all that are capable of a sustained flight have floated away. Many will fall to the earth, and the heavy gravid females, with their clipped wings, are, of course, left to deposit their eggs for the continuance of the race.

The flight is with the current of air, and when the sky is of a deep blue, and the sun is shining bright, the millions of them glancing in the sunbeams at an immense height, gives to the part of the heavens occupied by the sun an appearance the most brilliant imaginable. They seem like shining spangles laid on the deep blue, and glitter and glance in every direction. We do not recollect that we have ever seen a flight of them descend, repeatedly as we have seen them rise; and hence we conclude that in this country at least, they disperse in different bodies, or gradually waste away by the weaker ones falling to the earth. Be this as it may, wherever they appear they are a formidable scourge. Our ruta baga field this year is by the side of a meadow, and since that was mown, they have commenced feeding on the turnep, and the bare ribs and stems of the leaves on the plants most exposed, show plainly their ravenous appetites, and powers of feeding. To what extent they will injure the turneps remains to be seen. We have known them greatly damage corn fields, by eating off the silks before the corn was impregnated, and we once had a field of beans entirely destroyed by an irruption of grasshoppers from an adjoining meadow. We have, therefore, always hailed the beginning of their flights into the air as a proof that we were soon to be rid of their presence, and freed from their depredations.

CATTLE---No. 4.

Though almost every breed of cattle in England and other parts of Europe has its representatives in our common stock of cattle, or has at least contributed to the motly character they possess, there are only two others that have made an impression deep enough to deserve a distinct notice, and those are the Ayrshire, and Angus or Galloway breeds, both from Scotland. The following is the best description of the Ayrshire cow that we have seen—(and it is as cows, this breed is principally celebrated)—which we copy from the Edinburgh Quaterly Journal of Agriculture:

"The external characters of the best of the Ayrshire cattle are, a straight and nearly level back, the top of the shoulder being a little below the level line, and there is an evident tendency to depression over the loins. The ribs are pretty round, and the body deep; but there is a deficiency in the filling up of the buttocks. Viewed from before and behind, the carcass is rather narrow, particularly before. Viewed from above, the shoulder is much narrower than the hooks, which gives the body a considerable wedge shape, and the top of the shoulders a sharpness. The legs are short, and the body looks long for its height. The muzzle is fine, the face broad, but rather short, the eye complacent, the expression of face gentle, and the horn short and turned upwards, though not gaily. The colors are red and white like the short horns, though not so rich, and mixed in some places with black; but they are arranged in irregular blotches and patches, which are seldom round and never grizzled. The thinness of the skin and the fair handling, indicate a disposition to give milk, and a tolerable feeder. The breed in its uses is almost, if not altogether confined to the dairy."

This description is sufficient to show the points of resemblance, or rather those in which they differ from the short horns, with which from their *colors* they are more apt to be confounded than any other breed, by the inexperienced. The least attention. however, to their make, will show at once the wide difference existing, and the great superiority of the short horns as feeders, and we believe as milkers also. The short horns consume more food, it will not be disputed, than the Ayrshires, or any of the smaller lighter breeds, "but they give more milk, take up less room, and give less trouble in proportion to the quantity of milk they give." As a proof that such is the opinion entertained abroad, we may state on the best authority that the large London dairies in which the Ayrshire cows formerly occupied the highest place on account of their milking qualities, are now supplied almost wholly from the short horn districts. The Ayrshire cow is small, but she is more hardy than the short horn;—and the opinion of an eminent breeder at the Highland cattle show at Ayr in 1835 will probably be found nearly correct:—'that the Ayrshire cow was better fitted for the cottage or the small farmer than the short horn, but that the latter would certainly be found the most profitable for the large farmer.' The milking properties of the Ayrshires were probably exaggerated, as some with whom they were favorites, have stated the yield at 1000 gallons a year from a cow. There are few cows of any breed that would reach or exceed this mark. The quantity a cow will give in the height of the season is no criterion of the quantity she will yield through the year; and it is not an uncommon fact that those cows that yield their milk the most liberally during the summer months, 'go dry,' as the phrase is, for the longest period.

The writer in the Quarterly Journal, from which the above extract on the qualities of the Ayrshire cow is made, gives the following extraordinary instance of milking quality in a cow, and the descent of that propensity to her calf.

"The cow was a cross between a short horn bull, and a polled cow, and belonged to the steward of a farm in Berwickshire. She yielded ten gallons a day during the height of the season, and she had to be milked five times a day to keep her easy. She would regularly come at the appointed time to the gate of the field to be eased of her burden. * * A heifer from this cow before it had taken the bull, or had ever seen a bull, for none was kept on the farm on which it was bred, dropped an uddder and gave milk when it was only two years old. The owners thought some disease had affected the udder when they saw it enlarging, but in endeavoring to rub and strip the teats, with a view to relieve it, pure milk came, and continued to come all summer, as abundantly as if the heifer had borne a calf."

It is too clearly the case that the breeders or partizans of different breeds of cattle, are prone to overlook the defects of their own, and underrate the good points of others. Thus Mr. Aiton, in his Dairy Husbandry, gives the preference altogether to the Ayrshire cow, while Mr. Berry, and other writers, consider them as decidedly inferior to the short horns or the Devons. The truth probably lies between the extreme, and while, for the combined properties of milking and feeding, the short horn, in all rich and fertile districts, must bear away the palm, in those less favored by nature, or where pastures are less luxuriant and abundant, and the quantity and quality of the milk, (without particular reference to the feeding properties,) is aimed at, the hardy nature of the Ayrshire cow, and the acknowledged richness of its milk, would, we doubt not, render it a great acquisition. The Ayrshire itself is probably a cross, as it is comparatively but a few years since it came into notice in Scotland, and was at first known as the Dunlop cow, from the gentleman who first reared them as a distinct breed. This fact, as it accounts, (from their being no permanent type to give stability to the race,) for the facility with which this breed of cattle is mixed with other varieties, gives ground also to the supposition that in some of the crosses to which cattle are subjected by breeders, the peculiar quality of the Ayrshires will be united with and rendered permanent in some of the more fixed and stable breeds.

The Galloways are a Scotish breed of cattle, and are named from the district comprehending the counties of Wighton, and Kircudbright. This breed of cattle is now usually polled or hornless, but this may be considered the effect mainly of confining the breeding to those without this appendage, as some years ago many of them were horned, and it is now not uncommon to find them exhibiting a small horn attached only to the skin. The body of the Galloway is deep; the head rather large; the eye shows little white, and indicates sulkiness; the skin handles finely and is well protected with fine hair; the beef when well fed is of the best quality and commands the highest prices in the Edinburgh and London markets; and the beef is placed mostly on the back and hind quarters, the most valuable parts of a fat ox.

The Galloways are far more uniform in their excellence than the other breeds of hardy or Scotch cattle, and where seen in this country there is a greater resemblance than in most other kinds, indicating that the type of the brreed is more permanent than in some others. The Galloways do not arrive at early matnrity, seldom being what is called ripe, till four years old.

The polled cattle are not usually good milkers; hence but little attention is paid to them for the dairy. The best of the heifers are kept for breeding cows, while the ordinary, and inferior ones are spayed, and sent with stots or steers to the pastures of Norfolk and Suffolk to be fed for the Smithfield market. These spayed heifers never

attain the size of the steers, but they come earlier to maturity, and produce beef of a superior quality. The operation of spaying was formerly delayed till the heifer was a year old, but it is now usually performed a few months after their being calved.

The hornless cattle are so sparsely distributed in this country, and as it is not probable the breed will be greatly increased here, since they are celebrated neither for the quantity or quality of their milk, considerations which justly have great weight with owners of cattle here, it would be of little use to enter into any further description of them here. At present, in the United States, the milk is quite as much an object in raising cattle, as the quality of feeding, and the breed or breeds that most efficiently unites these qualities, will of course be received with most favor by the agricultural community.

In this view of the matter it seems to us that the Short horns and the Devons are the breeds to which we must look for the improvement of our stock; and that the introduction of blood from either of these breeds into our common breeds of cattle would be a decided benefit, will not be denied by any one who has witnessed the effects of such crossings on our cattle. That pure blooded Devons or Short horns are soon to be found on every farm we do not expect; but the annual importations of these animals, added to those produced by our public spirited men who have engaged in the rearing of pure blooded cattle, will by spreading valuable animals far and wide, bring them to the notice of farmers, and thus gradually make an impression on the great mass. In whatever neighborhood a Short Horn or a Devon bull has been owned, the effect is visible on the stock; and the fine square form of the one, and rich color of the other, will be clearly traced. We know some towns in which, from the introduction of Devon bulls of good blood six or eight years since, nearly all the cattle of the farmers around, by their mahogany red, their fine, white horns, and their yellow soft skin, show the influence of such blood. And the same may be said of places where the improved Durham has been introduced. We hail, therefore, with satisfaction every accession to the stock of good animals in our country;—we like the spirit of improvement it indicates; and consider it a proof that our farmers in every thing that can contribute to their wealth, comfort and respectability, are destined not to remain long behind those of any other country.

THE CLOUDS.

To the man who is accustomed to the observation of nature, there are few things more interesting than the clouds. Their mysterious formation, their transcendant beauty, and their acknowledged uses in the economy of nature, render their study a matter of more than mere curiosity, and a knowledge of their various forms a thing of more importance than would at first, perhaps, be supposed. Many, most, we may say, of the processes of farming, depend for their successful prosecution on the weather; and any observation founded on a system that can afford a tolerably correct intimation of what that is to be, it is evident must be of great utility to the cultivator of the soil. We have good authority for asserting that the mere observer of the clouds will not be apt to sow extensively; but that does not touch the desirableness of a competent knowledge of their theory and uses. We would not advise sowing in or by the clouds, any more than we would planting or sowing in the moon; but the influence of the first on the former, and the necessity of all the information that can be acquired respecting them, is far greater in regard to the clouds, than the moon.

The man who spends so much of his time in the open air, as does the farmer, must of course be more or less of a meteorologist. He must acquire the habit of paying some attention to the clouds, and if the observation is accompanied by the knowledge of a few simple facts, such attention will be of extensive use. Every man knows that clouds are of different kinds, have different appearances, and occupy higher or lower positions in the atmosphere; and it is from these things that a system of meteorology has been formed.

It is to Mr. Howard that we are mainly indebted for the classification of the clouds, the names by which the various kinds are distinguished; and many of the facts which have helped to build up the present system and place it on so firm a basis have been collected by his industry and accurate observations. According to him clouds may classed and called as follows:

Simple Modifications.

"1. CIRRUS; parallel, flexuous, or diverging fibres, extensible by an increase in any or in all directions. 2. CUMULUS; convex or conical heaps, increasing upwards upon a horizontal base. 3. STRATUS; a widely extended, continuous horizontal sheet, increasing from below.

Intermediate Modifications.

1. CIRRO-CUMULUS; small, well defined, roundish masses, in close horizontal arrangement. 2. CIRRO-STRATUS; horizontal, or slightly inclined masses, attenuated towards a part or the whole of their circumference, bent downward or undulated, separate, or in groups consisting of small clouds having this character.

Compound Modifications.

1. CUMULO-STRATUS; the cirro-stratus blended with the cumulus, and either appearing intermixed with the the heaps of the latter, or superadding a wide-spread structure to the base. 2. CUMULO-CIRRO-STRATUS, the NIMBUS or rain cloud. A cloud, or combination of clouds, from which rain falls. It is a horizontal sheet, above which the cirrus spreads, while the cumulus enters it laterally, or from beneath.

The Cirrus usually appears as thin light streaks here and there pencilled on the clear blue sky, though sometimes in lines that reach across the entire horizon. This is evidently the most rarified of all clouds, and occupies the highest part of the atmosphere. When Humboldt was on the summit of the Andes, the Cirrus was observed at the same great height, apparently uninfluenced by the mountains below, while every other modification was sensibly affected, or totally changed by contact. The cirrus sometimes forms so rapidly as to cover the heavens in a very short time with the thread-like fibres, while at other times it remains apparently motionless, or as rapidly disappears. Its formation would seem to be in an altitude bordering on that of the northern lights, and if it is not of the same nature, in some of its appearances and modifications there is certainly a great resemblance. As a general rule the higher and more delicate the Cirri, the finer the weather. When the Cirrus precedes a storm, it is lower and denser than at other times; and generally rises in a direction opposite to that from which the storm will advance. Nothing scarcely is more common than to see the cirri calmly floating high in the blue sky, while below, other formations of clouds are rapidly drifting in directly contrary direction.

The Cumulus shows itself the most definitely perhaps in the summer season, in the morning of hot days, in the shape of those rounded masses which by the afternoon are changed into, or united with other clouds, and form the the thunder clouds so well known in all tropical or even temperate climates. By the mass of people this form of the cumulus is termed 'thunder head,' a name significant of the aspect it assumes in the course of its progress. When this cloud presents a round well defined outline, and exhibits no tendency to connect with the stratus below, or pass into the cirrus above, it is generally indicative of fine weather. When it is the precursor of rain, the surface seems to melt and blend into a smooth or fleecy mass. It is to this cloud that the heavens owe so much of their beauty, as its dense masses and gigantic forms are admirably adapted to economize or reflect light; and no pencil can portray, or words describe the magnficence which the setting sun sometimes showers on these volumes of vapor that curtain his decline.

We not unfrequently see at nightfall, or in the morning, particularly in the autumn months, a dense white vapor creeping over our rivers and valleys, and, as the sun rises, gradually lifting from the earth into the air, and taking its place as a regularly formed cloud. Our beautiful chain of lakes in Western New-York furnish manufactories of this kind of cloud, and scarcely a week passes in the summer in which the process may not here be witnessed. This lowest of clouds is what Mr. Howard terms the stratus, and it generally forms the base of the rain cloud. When the stratus that rises from our valleys or lakes in the morning, evaporates before it reaches any considerable height, it may be considered as indicative of a fine day; or, in other words, it proves that the air is not loaded with vapor ready to accumulate for rain.

That modification of cloud called the cirro-cumulus, is easily distinguished from most other clouds, and is generally indicative of fine weather. It makes its appearance most frequently in dry summer weather, is usually high in the atmosphere; and is the cloud which originates that beautiful phenomenon, so rare in our latitude, vespertine lightning.

The modification called the cirro-stratus, is distinguished with more difficulty. Like the cirrus, it is made up of fibres, but they are more dense and regular, and do not rise to such a great height. It is in this cloud that haloes, or mock suns, most frequently occur, and it is usually followed by stormy and unpleasant weather. To this cloud belongs that peculiar modification, in which a large part or even the whole of the horizon will be covered with small flocculent masses of cloud, arranged in regular order, and called by sailors the mackerel-back sky.—When it appears in the form of what is termed the waved cirro-stratus, storms may be expected with little delay.

The compound modification called cumulo-stratus, being a gradation or combination of clouds that sometimes indicate fair and sometimes stormy weather, is most frequently observed in climates subject to sudden changes of temperature, such as those that are mountainous, like the Cattskills or the White Mountains. This cloud is formed of the cirro-stratus and the cumulus, and assumes at times the most majectic or the most fantastic forms. Its appearance is the best marked, as it is passing into the next compound modification which is the

Cumulo-cirro-stratus, or rain cloud. The formation of this cloud can be more distinctly traced in our summer thunder showers than in any other way. Usually about nine or ten in the morning, rounded masses of cumulus appear in the west. Accumulations of vapor gradually take place at the bottom, and the form called stratus appears. The cloud now seems like a huge pile of rounded masses of vapor, piled on a horizontal plain of clouds, which base extends in every direction beyond the cumuli heaped above. In this form there may be rain, but never thunder or lightning. To produce the electric state the cirri must be present, and these rarely show themselves to ny extent before twelve or one o'clock. The time, however may be said to be depending on the heat of the day. At this time the rounded tops of the cumuli seem to meet and flow off in long fibrous streamers in the direction of the wind, rising at the same time to a very high altitude. The base at the same time is growing more sensibly dense, and the connection between the strata, cumulo and cirri, more intimate. As soon as the cirri become fully developed, and not before, the electric action commences, and the thunder shower may be said to have commenced. The violence of the rain, and the activity of the electric fluid, are generally in proportion to the extension of the cirri; and is it not very possible that these long fibres of vapor stretching through such an extent of the atmosphere, serve as conductors to that fluid which seems universally distributed.

The formation of clouds is a subject attended with many difficulties in the solution; though there can be no doubt that they have their origin in the aqueous vapor lifted into the air by the process of evaporation. This vapor is usually invisible in its ascension, and frequently remains so for a long time; as it is well known that a high temperature, or one most favorable to evaporation, may exist for a considerable time without the presence of visible vapor or clouds. That clouds are formed by a combination of aqueous drops, or what has the appearance of such, is known to those who have looked at the masses that rise from, or sometimes approach the earth. That these drops are, however, hollow, or vesicular, is now most generally admitted, and, indeed, seems necessary to account for some of the appearances attending them. Almost every one has observed that in some kinds of fog or of cloud, these drops or particles of vapor are so large as to preclude the idea of their floating unless they were bubbles of extreme tenuity. We have noticed them as large as mustard seed; but it is only on high mountains

where the atmospheric pressure is taken off to a great degree that they are observed of the largest size. In passing the Alps, Saussure states that he saw a multitude of small globules, like soap bubbles floating around him, the component parts of a cloud in which he was enveloped, and which were generally about the size of a pea; and other travelers in elevated regions have noted the same facts.

The most plausible theory of the origin of lightning and rain, is that which supposes these millions of vesicles as minute Leyden jars charged with electricity, repelling each other, and thus prevented from uniting into drops and forming rain. Now if owing to any cause, and there are many that may produce this effect, the electric fluid is drawn from the clouds to the earth, or from one cloud to another, either in large quantities, as in lightning, or gradually as in the common rain cloud, it is evident the vesicles will collapse as it were, the watery vapor unite, and drops of water be formed. In no other way, so satisfactory, can the rush of large drops that so frequently follows an electric discharge in a thunder shower, be accounted for.

It is not very unfrequently the case that currents of air moving in different directions exist in the atmosphere at the same time, and the clouds, according to their elevation, will be acted upon and follow the course of these currents. Thus while the cirrus may be nearly motionless, or passing but very slowly from west to east, cumuli or stratus may be drifting with great rapidity and large volume from south to north; and sometimes the cirrus, the cirro strata, and the cumulus, may be observed at the same time in layers of different elevation, and following the motion of the crossing currents of air. In Western New-York, if the volume of clouds move for any considerable time from any point between S. W. and S. E., rain is pretty sure to follow; unless, as we have several times observed, and particularly so during the hot dry weather of the present summer, the upper strata of air remains unaffected by the southerly current, and continues in the usual course of our fine weather current of air, which observation shows is between S. of W. and N. of W. At the present time of writing, Aug. 8th, very fine and regular cirri are moving very gradually from a little north of west across the sky, while cumuli in detached masses are almost as slowly floating from a degree or two east of south; the weather delightfully fine; the thermometer at 73°. In such instances, however, if the counter currents of air result in the formation of the stratus, rain may be considered as very certain within twenty-four hours.

It appears to us very clear, therefore, that a competent knowledge of the elementary principles of meteorology may be of essential aid to the farmer. That some clouds, or combinations of clouds, do not produce rain, while others invariably do, is certain; and if the power of distinguishing such clouds with a good degree of certainty could be easily acquired, as it may be, the result could not be otherwise than beneficial. The farmer does observe the clouds, and makes his prognostications on their appearance, and regulates his business accordingly, and the nearer such observation can be reduced to a system, the better will it be.

Encouragement to Agriculture in Maine.

Maine was the first of the New England States to perceive the ruinous tendency of the neglect of agriculture, and the necessity of stimulating the enterprize, and giving a proper direction to the industry of her citizens in the cultivation of the soil. As an experiment, the Legislature some two or three years since offered a bounty for the cultivation of wheat,—ten cents the bushel for twenty bushels—for the quantity between twenty bushels and two hundred bushels six cents per bushel—and for each bushel over two hundred, three cents. The graduation was such that the small farmer as well as the large one, was encouraged in his effort; and the effect was such, that for the first time since the settlement of that state, Maine, last year, raised from her own soil a supply of bread stuff nearly equal to the demand.

Encouraged by the unquestionable success of the bounty on wheat, at the last session of the Legislature of that state, they offerred a bounty on the production of corn, at the rate of seven cents per bushel for the first 30 bushels—between thirty and sixty bushels, three cents—and for all over sixty, two cents each. As the present season has been an admirable one, thus far, for corn, we do not doubt that extensive inroads will be made into the Maine treasury after the gathering of the corn harvest. And, as in the case of the wheat, the disbursement will be a most profitable one for the state.

Maine, too, has set a noble example to her sister states in another respect. Rightly considering agriculture as the foundation of society and civilization, her legislature have deemed the implements necessary for carrying on the operations of husbandry, as deserving particular legislation, and have exempted from attachment, the plough, cart, harrow, and the other tools necessary to the farmer. We think the law of Maine in this matter a wise one, and one which might be imitated with decided benefit, where a similar provision does not already exist.

$55,000 Annually for School Libraries.

From the little enquiry on the subject, and the little preparation made in our common school districts, to avail themselves of the bounty of the state, we think we are right in inferring that not one in fifty of our mechanic and farming population are aware of what the Legislature of this state has proposed to do for them, to assist in the acquisition of knowledge. The subject is of too much importance to be lightly passed over or forgotten, and we wish to place, in few words as possible, the matter clearly before our citizens that their action may be in season, and the decision of the districts made understandingly.

By the fourth section of the act to appropriate the income of the United States Deposite Fund, passed at the last session of the legislature, the sum of $55,000* is to be applied for three years to the purchase of school district libraries, and after that time for the payment of teacher's wages or the increase of libraries, at the discretion of the inhabitants of the districts. It will be seen that for three years no discretion is allowed the districts, as to the use of the money. If drawn, it must be used for the purchase of libraries, but after the three years, it can be appropriated to the payment of wages, or to the increase of the library as shall be deemed expedient.

We consider this appropriation one of the most important steps towards the diffusion of general knowledge and education among the people, that has been made since the establishment of our common school system; and it is to be hoped that it will be followed up by a prompt acceptance and action on the part of those for whose benefit it is intended. The sum to be divided to each scholar between the ages of five and fifteen will be about twenty cents annually; and this it is evident will in three years lay the base of a most valuable library in every district. Should this sum be deemed insufficient at the commencement, the districts have the right to raise an equal sum at their pleasure, making forty cents to each scholar, a sum sufficent to provide one or more volumes for every scholar in the district.

After all it is evident that much or most of the advantages to be derived from the appropriation must depend on the character of the books selected, and their adaptation to the wants of those for whom the libraries are principally intended. To meet the wants of the public in this respect, and furnish a supply of suitable books at the lowest possible rates, the American Society for the Diffusion of Useful Knowledge, composed of gentlemen of the first character and acquirements in the country, have made an arrangement with the Messrs. Harpers, of New York, by which the following 50 volumes, packed in a neat book-case with lock and key, the whole for $20, will be delivered at some central point in the several counties of the state:

History.—Ancient and Modern Egypt; Palestine or the Holy Land; History of Chivalry and the Crusades; History of Arabia, Ancient and Modern; The Chinese, or a general description of China and its inhabitants; American History; American Revolution; History of New-York; and History of Virginia.

Voyages and Travels.—Circumnavigation of the Globe; Narrative of Adventure and Discovery in Africa; Lives and Voyages of Early Navigators.

Biography.—Paulding's Life of Washington; Lockart's Life of Napoleon; Life of Alexander the Great; Life of Peter the Great; Life of Oliver Cromwell; Lives of Celebrated Travelers; Memoirs of Celebrated Female Sovereigns.

Natural History.—Mudie's Guide to the Observation of Nature; The Swiss Family Robinson; The American Forest; The Natural History of Insects. Natural History of the Inferior Animals.

Physical Science.—The Principles of Physiology;—Letters of Euler to a German Princess.

Intellectual Science, and *Belles Letters.*—Abercrombie's Inquiry into the Intellectual Powers; Montgomery's Lectures on Literature, Poetry, &c.

Miscellaneous.—Indian Traits; Perils of the Sea; The Poor Rich Man, and the Rich Poor Man; The Ornament Discovered; The Son of a Genius; and the Whale Fishery and the Polar Seas.

As, with the exception of some ten or twelve of the above named volumes, we happen to have the works in our possession, we can give the selection, *as far as it goes*, our hearty commendation, and shall cordially hail the introduction of such a library into every school district in the state as a most auspicious event. When we say, as far as it goes, we mean that the selection does not extend quite far enough; or if it was advisable to commence with no more than 50 volumes, then some of the foregoing might have been omitted and their places supplied by others that we think would have added materially to the value of the whole as a library for a district school. In the first place, what is to be the occupation of the great mass of those for whose reading and benefit these libraries are designed? The answer must be, Farmers and Mechanics. But in looking over the list of volumes, though all are excellent, we see none adapted to the wants of these two great classes, as such, and must consider such omission a matter of serious regret. It is true the libraries are only intended to furnish general reading, and it is this feature that meets our decided approval; but the course of reading should meet the wants of the majority, and aid in accumulating stores of knowledge that can be of the most service to them in after life. A work on the chemistry of Agriculture, and the mechanics of Agriculture, is indispensable in such a collection; and Chaptal, with one or two of the chapters abridged or struck out, would have made a more useful book than almost any one in the collection. There must be a work too that shall embrace the History of Domestic Animals, their diseases, and appropriate remedies; and all matters of interest relating to domestic economy.

But we ought not, perhaps, to require too much at the beginning of such an enterprise. The Society before named have in their prospectus announced their intention to embrace in their collection works on every subject necessary to the knowledge or progress of society; including the arts necessary to mechanics and agriculture, as well as general chemistry and geology. Works of precisely the kind required may not be at command, and time for their preparation may be requisite. There are many volumes on the subjects we have named, that however valuable they may be for the man of general science, or established libraries, would be improper, or nearly useless in a district school. The Society in preparing books for schools, will undoubtedly feel the importance of having the elementary instruction conveyed in them, of the most correct and indisputable kind possible, since the great fact in all education that it requires more labor to eradicate one error than to implant two truths, is in no case more apparent than in that of which we are speaking. There will be a propriety, therefore, in submitting the books, intended for the common school library, on any branch of science or art, to individuals well versed in those branches, unless indeed the books should have been prepared by such individuals for the express purpose of use in schools.

If there is any thing of which New-York has reason to be proud, it is of her system of common schools, and her system of internal improvement. The pioneer, in our vast confederacy on both these topics, she should let no opportunity pass of pushing them to the highest point of perfection of which they are capable; and if properly

*Some of our contemporaries have stated the sum to be annually appropriated, at $45,000: a reference to the law will show the amount to be $55,000; or 165,000 for three years, to be applied to the purchase of books, and nothing else.

managed, the last will furnish adequate and ample means for both. We are always pleased to see money appropriated to the purposes of education, believing that in a well informed community is to be found the safety and permanence of our civil and religious institutions; but great care should be taken that the money appropriated is expended so as to effect the end aimed at. We want to strike at the root; we want to communicate knowledge to every class of society; and if the mass of the people are well instructed and intelligent, there can be no fear for the remainder. In every effort to instruct, therefore, whether by means of common school teachers, or common school libraries, the wants of the many, and the most efficient means of supplying them, must be kept steadily in view.

PROLIFIC COW.

The Belfast News Letter, of May 20th, states, that there is at present in the possession of W. K. Baillie, of Grey Abbey Mills, and reared by him, a beautiful cow of the polled or Galloway breed, which has calved the other day *three fine calves for the third time in succession*, being her fourth time of calving, having had two calves the first time, making, in all, eleven calves at four times of calving.

SILK.

We are much gratified to learn from all parts of the United States, that the production of silk is going forward with the greatest success; and that this important interest promises to become fixed on a firm foundation.—Our climate proves to be admirably adapted to the health and habits of the worm, the silk is of a very superior quality, and the difficulties that have been supposed to attend the reeling from the cocoons, have been readily overcome. The only fear, that we think a reasonable one, is, that in the northern states the mulberry will not endure the severity of our winters, with the certainty that seems necessary to authorise extensive investments in the culture and manufacture. Some experiments, however, in Massachusetts, and farther north, would seem to show that as the roots of the plants are uninjured, by cutting them near the ground in the fall of the year, the shrubs will send forth abundance of shoots and luxuriant foliage before leaves will be required in any quantity for the worms.

A correspondent of the Evening Journal, writing from St. Augustine, Flor., says:—"All the experiments of our ancient city, the present season in silk making, are successful and interesting. We have, at this time growing in our sandy but luxuriant soil and appropriate climate, nearly ONE MILLION of MORUS MULTICAULIS trees of various sizes." Messers. Jenks and Ranesburgh of Frederick, in Maryland, have a flourishing orchard of Mulberry trees; are feeding 100,000 worms this year, and intend next year, by enlarging their establishment, to make 500 lbs. of silk. In New Jersey several companies are rapidly going ahead in this manufacture, some of them feeding this year more than a million of worms. A letter to the editor of the Zanesville Gazette, from a gentleman in the same county says:—"My silk worms are now two years old, and in about four weeks more they will probably all be spinning, when I shall probably have a day or two to spare before gathering the cocoons, and shall visit Zanesville that I may arrange for sending them to market." His crop of cocoons is estimated at from 150 to 200 bushels.

In New England the companies that have been formed for the prosecution of the silk culture are prospering, and large quantities of raw silk, as well as thread, and the ordinary kinds of silk goods will this year find their way to market. No difficuly, we understand, has been experienced from the want of foliage in consequence of injury to the young Mulberry orchards from the frosts of last winter, and it is confidently hoped that the hardier kinds of this tree, such as the Brussa or some of the white varieties, will stand our winters without suffering from them. No instances in New-York have come to our knowledge where the feeding of worms is carried on extensively; but the planting of Mulberry trees is increasing, and in numberless instances almost, a few worms are fed, and small quantities of silk, principally made into thread, will find its way before the public for sale. We are glad to record these incipient steps, as we consider them a proof that the business can and will succeed among us; that the sons and daughters of our farmers are making themselves acquainted with the management of the worm, and the reeling of silk; and that eventually they will find it one of the most profitable as well as pleasurable employments in which they can be engaged.

DAIRY STOCK.

We are daily more and more convinced of the mistakes and folly of our farmers in regard to the management of our dairy and milking stock. If we are thought to recur too frequently to this topic, its great importance must be our apology. We can find cows in numbers of our own native stock which have produced for weeks in the best of the season twelve, and in some cases fifteen pounds of butter per week without being forced by extraordinary feed; and we have known of a dairy of twentynine cows having averaged in a season six hundred and thirty pounds of new milk cheese; and those too all of native stock. Now what stock will do better than this? and why need we look for any other if we will but do ourselves, and these beneficent animals even half justice?

We are perfectly convinced that for milking and dairy purposes we need not go out of the country to find as valuable a stock as can be brought into it. We have heretofore asked the owners of the Improved Durham Short Horn Stock to let us know by actual measurement for a length of time, a week, a month, a season, what their cows will produce. We now go further. Without the slightest prejudice against their stock, and with a grateful sense of the patriotism and public spirit, which has induced them to bring this stock at great expense into the country, we now challenge them to show the well authenticated and exact results of the trials of these improved animals. We, on our part, promise to meet them with time, place and person, with examples of the produce of our own native stock, and then we will compare them together; and we engage to go heartily for the best. The distinguished editor of the Cultivator considers the list of remarkable cows of native stock given in our Report on Essex as hardly deserving of notice, because they were only examples of individuals under a state of high feeding. Now we say with perfect respect to our distinguished friend, produce if you can from all the Improved Short Horns in the country *as many* and *equal examples* of productiveness; under any feeding you please to adopt; and then we are prepared with a longer and a brighter list than we have yet given. But until this is done, let us not be in a hurry to change what we have for a race, whose claims to superiority for dairy purposes yet remain to be established; which can only be procured at a considerable expense, and whose condition can be maintained only by extravagant keeping. For the luxuriant prairies and alluvions of Ohio, Kentucky, and the rich Western States, where size and early maturity are matters of the first importance, we are disposed to believe that this beautiful race of animals, the Inproved Durham Short Horns, will prove an invaluable acquisition; but it is not so we believe, at least we want further light to be convinced that it is so, for the hard hills, the short pastures, and the long winters of New England, where butter and cheese are the great objects of the farmer. We do most earnestly wish that the owners of good cows of any breed would be more particular in asertaining the products of their cows, that we may not be continually met with guesses, which are altogether capricious; and which take their complexion too often wholly from the private interest, or prejudice, or self-conceit, or vanity of the owner. Get a lactomater and measure your cream. Weigh your milk and observe the pounds and ounces. Measure your milk and let us know whether the vessel you use for this purpose be a beer or a wine quart. Try the whole milk of your cow for a week, a fortnight, or a month, and see how much butter, how many pounds and how many ounces she will yield. This is the proper and the only proper trial and test of her merit.—*New England Farmer.*

THE GRAIN WORM.

In some places considerable damage has been done by this insect, but much less than was at first apprehended. We examined many fields of wheat last year and this, and from what we have seen and accounts from many parts of the country, we should judge that the injury from the grain worm this season, in New England, is not more than half as much as it was last year. The damage last year was generally estimated to be about one tenth of the crop. In some parts of Canada the wheat crops have been nearly destroyed by the grain worm this season;—some farmers will not get enough for seed; its ravages in that country have been rather extensive. We have seen no account of any damage being done by this insect in New-York. It was stated last spring in one of the western agricultural papers that the grain fly had not made its appearance in that part of the country.

Much has been said about the habits of this insect, and the methods of preventing its ravages. We have on hand several articles on this subject, which we shall lay before our readers in due time; and we now make a few remarks as the result of our observations and inquiries. It has generaly been considered that bald wheat is not so liable to injury from the grain worm as the bearded; some persons have supposed that the hull of the bald wheat is thicker and closer to the kernel, which prevents the fly's depositing its eggs so conveniently, as they are laid between the hull and the kernel; others suppose that beard on wheat offers better facilities for the flies lighting upon the heads and laying their eggs. But close observation shows that the bald wheat is as liable to injury as any other kinds; we have observed several pieces of bald and bearded wheat, sown at the same time by the side of each other, and in some cases the two kinds were mixed in the same piece, and one kind was injured about as much as the other; and we have heard a number of farmers mention the same as the result of their particular examinations.—There may have been some cases in which bald wheat was later than the bearded, and on that account suffered less from the grain worm, which gave rise to the supposition that it was from its nature less liable to injury.

We examined a piece of bearded wheat when it was well headed out, and the grain worm was at work upon it;—a piece of bald wheat that was sown by the side of it at the same time was then just beginning to show the heads as it was later, and the worms were in that also; we examined both kinds again when it was ripe, and they were injured about alike; the bald wheat was injured only at the tops of the heads, and there the grain was wholly destroyed; the bearded was injured some from top to bottom. This difference was doubtless owing to the flies operating upon the bald wheat when only a part of the heads was out, and this is the reason why some persons suppose that the fly commences at the top of the head and then proceeds downward. We often hear it remarked that wheat is injured only at the tops of the heads, and it is evident that if such wheat had been sown a little later, the heads would not have come out until after the fly had disappeared.

Much has been said about sowing wheat at a time, as late or early, that would prevent injury from the fly. On this subject farmers in general have not yet had sufficient experience to manage to advantage; and as the grain fly makes its appearance earlier in some seasons than it does in others, and as it appears earlier in some places than it does in others, no rules can be given which will be infallible, though something may be learned from experiments that will be of much advantage.

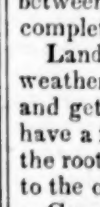
Many farmers have supposed that very early sown grain would escape the grain worm, and the kernel would get pretty well grown before it commenced its work; but this season the earliest sown grain is the most injured.—We have examined some pieces that were sowed quite early, and it appears that none was sowed so early as to escape. We examined one very fine field of wheat the latter part of July, when in some parts the berry was almost full grown, and in others it was very small, owing to several kinds being sowed, some later than others;—and there were scarcely any worms in it; this wheat was sown the third day of May. On the same farm, and on a piece of land no more exposed to the grain fly on account of is situation as it was higher, a piece of wheat was sown on the 20th of April, and it was supposed to be injured about 40 per cent. From this it would appear that wheat sown the first of May would have escaped this season;—but we have heard a number of farmers say that they sowed their wheat the first week in May, and it was much injured; and they think it should have been sowed as late as the 15th or 20th of May in order to have escaped injury. Many farmers who practice late sowing for the purpose of avoiding injury from the grain worm, have sowed as late as the last of May and first of June; which is too late, as the wheat sown so late is much more liable to injury from rust.—*Yankee Farmer.*

From the Cultivator.

FENCE MAKING.

J. BUEL, Esq.—Sir—As the expenses of fencing, where the loacality of farms requires rails, are often great, I may perhaps advantage some of your readers, by describing a method which I find to be a saving of land, timber, and labor, when brought into a comparison with what is generally called the *worm fence*. To construct a durable and good fence, on what I call the *improved plan*, requires *straight and strong* stakes, of suitable quality, and some seasoned blocks for pins. Trunnels are not wanted. Stakes from seven to nine feet long; pins twelve to eighteen inches, suiting the size of the rails. The pins I make in wet weather or winter season, and also bore holes in the stakes, for a pin on which the bottom rails are laid; this is done with an inch and a quarter or larger auger, agreeably with the number of rails, and their weight or size, as a light or heavily constructed fence is wanted. The lower pin is pointed at both ends, and should be forced in tight, so as to attach the bottom end of the stakes and keep out wet. If for an outside, or fence to turn hogs,

the bottom hole in the stake is bored two feet from the end —if inside or temporary, where hogs or sheep are not to run, two and a half or three feet. To one of these pins, I attach two stakes, and set them in the ground at my beginning, *firmly*, twenty or twenty-two inches, and lay on a rail, the forward end of which will show where to set the next pair of stakes, and thus I lay out the foundation. If I am making a tight, standing fence, I then, on this foundation, lay three or four more rails, according to their thickness; if a meadow or inside, one or two, fitting them neatly in their lap between the stakes, with an axe, so as to have the stakes to touch each rail if I can. I then begin again at my first joint, and with a rope noosed at one end, throw it over the top, and draw the stakes tight together, and adjust the joint properly; then with an inch or larger auger, bore another hole straight through the middle of the stakes as they stand, so as to touch the top rail; here another pin is driven, which must have a head at one end, and be fastened at the other with a light nail, set a little into the outside of the stake; take off the rope when the joint is thus firmly pinned up, and thus go over the whole; when you may put above this pin just as many more rails as you please; and, if it suits you, put in a third pin on the top, or one rail below the top, which will both strengthen your fence, and prevent a mischievous beast from lifting it. A joint with three pins, not set in the ground or railed, has this aspect; the proportions between the pins being as three to two feet apart; after the fence is made, the sharp ends of the pins should be cut off, to prevent mischief.



The labor of making the improved fence, when equally familiarized to the mode, is less, at *first setting*, than cutting and splitting trunnels, and procuring the mass of timber required by the worm. To say nothing of its better appearance, I will state only the following advantages.

1st. *Saving of land.*—A worm fence requires from five to six feet in width from the foot of each outer stake; the improved fence only the thickness of the rails, say five to eight inches. This will save acres in a large farm.

2d. *Saving of timber.*—A joint of this, (rails 11 feet long,) reaches over ten feet from centre to centre: of the first, with safe lap and the usual worm, quite one-eight less; so that 100 pannels of the worm will make at least 112 to 114 of the improved fence, rating the same number of rails to each joint: but I find four good rails in a pannel to make an excellent fence against horses and neat cattle, thus saving the useless bottom rails of the worm. Trunnels also are saved, and as my fence never settles into the ground, the bottom rail of the old worm which generally comes out rotten, when new set, is saved. I think I save more than one-third of my timber by this method.

3d. In the highest winds, I have never had a joint to blow down in the *improved;* this rates annually to the labor-saving account.

4th. In case of *altering* or *moving*, the posts are taken up without unpinning, and the labor of setting them in another place is trifling.

5th. Hedges and trash, briars, &c. have no room for growth in the joints; mowing is easily performed under them, and stopping against very small pigs between the rails, is easily effected with a few poles of suitable length.

Its duration depends on the material used. I get cedar poles six or eight inches thick for the stakes—cut them in summer, when the bark slips easily, and lay them straight in heaps to season well, and I think they will last twenty years. Chestnut is perhaps better, and white oak and chestnut oak from heart logs are very durable.

Some may perhaps imagine, that this fence cannot be made with crooked rails; I have found by much practice, that I can use them better and confine them to their places better, than I can in a worm fence; straight and even rails, will make the handsomest, and perhaps the strongest fence in this, as in all others; but I think that any rails that will make other fences, may be used as advantageously in this.

Now, sir, you can, without the risque of offence, try a process of "combustion" with the above effusion; or give it to your readers, as may seem best to you.

Your ob't serv't, D. ALLINSON.

Juliustown, N. J. July 14, 1838.

Perfect Subsoil Drainage, and Deep Ploughing.

Every variety of good soil has a naturally dry porous subsoil, being either a deep, friable, porous earth, sand, or gravel, or open rock; so that rain water will not rest on its surface, but readily pass through the stratum below.

The greatest injury which the land receives is from stagnant water on the surface, or between the soil and the subsoil.

Bad and worthless clay soil is generally that which is saturated by stagnant water.

If water be allowed to remain on good land, it will soon convert it into bad or worthless soil; a retentive subsoil has generally a soft or clayey surface, and is universally a bad and unproductive soil.

When the subsoil is retentive, the rain finds its way through the cultivated portions of the surface to the subsoil, and passes on slips between them to the furrows, keeping the cultivated portions of the soil wet and unfit for vegetation; but if the subsoil be porous, either naturally or artificially, it then goes directly through the subsoil or porous passage to the drains that are formed to draw off the redundant water.

It is the constant practice of the most scientific gardeners, when about to pot any plants, to put some broken tiles or gravel in the bottom of the pots to drain off the superfluous moisture from the plants to the hole in the bottom of the flower pots; and when they use a strongish or clay soil, instead of passing the soil through a seive as formerly was the custom, they now chop it into small pieces, and thus give to strongish clay soils, an artificial porousness which they naturally do not possess.

On examining the roots of plants growing in pots with soil thus prepared, we find the crevices between the broken pieces of earth full of roots, because they have not only a more easy passage where the soil is friable, in consequence of the lumps keeping the earth loose and porous between them, but here the drainage is most rapid and complete.

Land is not perfectly drained which, during the wettest weather, has any spots on it which the water rests upon, and gets stagnant for a short period; the rain should have a free course to sink down through the subsoil below the roots of plants, and then run off by the furrow-drains to the open ditches.

Complete subsoil drainage of the retentive soils can only be effected by having a drain in every furrow, or about one or at most two perches apart, and then by subsoil ploughing across the drains, and making an artificial porous stratum under the cultivated surface to within an inch or two of the stones in the drains, that the rainwater may fall through the surface and run in the subsoil to the drains. The effects produced on the crops of close retentive soils, after they have been perfectly drained and subsoil ploughed, is most astonishing.

The produce is so much increased that it will in many instances pay the expenses in a year or two; and wet soils, which seemed to be strong clay when wet, become friable and even light when completely subsoil-drained, are easily cultivated, and light enough for producing turneps to be fed off with sheep.

Perfect drainage and deep ploughing is the true principle of giving to the soil an increased fertility, by this means the plants are enabled readily to push their roots farther and deeper in search of food, which they obtain of a more healthy kind, than when the soil is imperfectly drained and ploughed shallow. All tenacious clay soils should be trenched or subsoil-ploughed once in every course of crops; or when they are in fallow; this prac- not only gives to the roots of plants a greater scope to go in search of food in dry weather, but also furnishes a depth of porous substratum under the soil to draw off the superabundant moisture during continual wet weather, and transmits moisture to the roots of plants in continual drouth.

The utility of trenching or subsoil-ploughiug these soils, particularly each as have retentive subsoils, must be evident, for, if the soil on such a subsoil be well pulverized merely to the depth of the furrow slice, in continned wet weather it soon gets into a state unfit for vegetation; the water becomes stagnant, and all the soluble matter in the soil is either washed out, or locked up in the soil from being so thoroughly soaked as to exclude the air; and when it again becomes dry, it is as hard and solid a mass as bricks ready for the kiln.

In either of these states it is impossible for any plants to vegetate, the soil being at one time as soft and smooth as well tempered mortar, and at another almost as dry and hard as a stone.

But when the soil is artificially deepened by deep ploughing, and the subsoil is also made porous to much greater depth by the subsoil-plough, the rain gradually sinks down to the whole depth of the porous substratum, and from thence to the furrow drains; and in time of great drouth, the deep moved ground will hold, by capillary attraction, a much greater supply of moisture for the nourishment of plants, thus draining off the abundant water during the heavy rains, and supplying the means for healthy vegetation at all times.

Complete or perfect drainage is the foundation of all improvements in husbandry; it should therefore be the first step which we take in attempting to improve or ameliorate the soil.

Land wet from springs should be drained by deep drains, so as to tap the porous stratum which contains the water at the lowest level if possible. But much the greatest part of what is called wet land, is so from its retentive subsoil, and the retentive adhesive nature of the soil, which so obstinately retains the rain that falls on it; so that the drying process is effected very slowly when compared with soil whose subsoil is either naturally or artificially porous. The working of such land is kept back, and is frequently not effected in proper time. Nature furnishes us with the principles which should direct all our operations in permanently improving soil or in cultivating it.

As we have seen that the richest and most productive soil has always a subsoil pervious to water, which carries it off as it falls by imbibing it or filtering it to a considerable depth below the active soil; so we ought artificially to make as complete a drainage of subsoils to produce the same effect by having drains from one to two perches apart to effect this, and by deep or subsoil ploughing across these drains to draw off the water to them which falls on the surface, so that the whole of the active soil may be always kept so dry as to be fit for the purposes of vegetation.

These drains must be sufficiently near each other to allow the redundant moisture to be speedily and effectually carried off by the artificial passage made at the bottom of the moved subsoil.

The distance of these drains must be regulated by the nature of the subsoil; if this be very close and impervious they should be only about one perch, but if it be to a certain degree pervious, they might be two perches apart.

Before we attempt perfectly to drain any land, we must first understand the principles of the system thoroughly, or we may only adopt certain general rules, without considering that the various kinds of subsoil will require particular modes to effect our object.

Mr. Smith of Deaneaston first gave publicity to the mode of perfect drainage, and subsoil ploughing; he says, "The principle of the system is *the providing of frequent opportunities for the water rising from below, or falling on the surface, to pass freely and completely off*, and therefore the most appropriate appellation for it, seems to be, '*The frequent drain system.*'"—*Morton on Soils.*

From Colman's Reporter.

Expense of Cultivating Corn in Massachusetts.

Another farmer states: "I think ploughing an acre of swarded land with two yoke of oxen and two hands will take something short of a day, cost $3; to plough old ground, one yoke of oxen and one hand three-fourths of a day 1,50; harrowing an acre of new ground 1,00; old ground 50 cents; furrowing or hoeing 50 cents; planting 1,00; cultivating, harrowing, or hoeing, three times, 4,50; topping stalks 1,50; gathering 2,00; husking 3,00; if manured in the hills, say 20 loads of manure, 20,00; making a total on swarded land of 36,50. I call a good crop of corn from 60 to 70 bushels. I have raised 80 bushels. I buy good manure at 1,50 per load." If we rate the crop at 60 bushels at 1,00 per bushel, it leaves a profit of 23,50 and to this is to be added the value of the corn fodder equal to three-fourths of a ton of hay, say 12,00 making the whole profit 35,50. Half the manure in this case should be charged to the next crop.

The estimate of another farmer in Essex county of the cost of cultivating an acre of corn is as follows:

"Half the corn raised in our neighborhood is raised in a course of crops; first year, break up grass land and plant with corn; second year, corn or potatoes; third year, wheat, barley, or oats, with grass seed; then from three to four years in grass. We use from four to ten cords of manure, average eight cords per acre; but only half should be charged to the corn or potatoes.

Four cords of manure are	16 00
Ploughing, including team, 3 days work,	3 00
Opening holes and putting in manure, 3 days,	3 00
Dropping and covering, 1 day,	1 00
Hoeing three times, 5 days,	5 00
Cutting and securing tops, 2 days,	2 00
Gathering and husking, 4 days,	4 00
	$34 00

He puts the produce at 40 bushels and values it at 30 dollars, and the fodder at 8 dollars, making 38 dollars.

In this case the produce is less than such cultivation ought to warrant; and the value of the manure is estimated at a high rate.

This farmer states, likewise, that he estimates the expense of cultivating an acre of potatoes to be the same as an acre of corn, 34 dollars; and the produce 240 bushels, deducting 15 for seed, will leave 225 bushels, at 20 cents, equal to 45 dollars. The above estimates he adds, are for our stiff loams; but from light loams and sandy lands I should put the potato crop at from 150 to 200 bushels."

The statements above given are from a farmer, who in his extreme concern lest he should make an exaggerated estimate, has certainly underrated the produce of his own fields; and designs to give the average of his vicinity. It is obvious how greatly the increase of ten or twenty bushels to his corn crop, and one hundred bushels to his potato crop per acre, by more liberal and skilful cultivation would change the results, without increasing the expense of manuring and cultivation in proportion. With less than 50 bushels of corn to the acre and three hundred bushels of potatoes, no farmer ought to rest contented.

I add the estimates of a farmer in Middlesex county, whose yield of corn is 55 bushels to the acre, and who frequentiy gets 100 bushels of turneps from his corn ground.

55 bushels corn at 1 dollar,	55 00
100 bushels turneps at 12 cents, less expense of gathering, 5 dollars,	7 00
Corn fodder,	12 00
	74 00
Expense,	40 00
	$34 00

I subjoin also, the estimate made by one of our most skilful farmers, the Superintendent of ths Farm School, at Thompson's Island, Suffolk county. One acre of corn or greensward:

Ploughing with double team, nearly one and a half days, at 4 dolls. per day	5 00
10 cords of compost manure, one part animal, the other vegetable, well incorporated together, and which should be in a state of decomposition, valued any where within fifteen miles of Boston at 4 dolls. per cord; one-half of which should be put to the corn crop,	20 00
Carting on manure with single team 2 days,	4 00
Harrowing with single team half a day,	1 00
Spreading manure 75 cents; rolling half day, 1 dollar	1 75
Harrowing 1 doll.; furrowing one way with horse, 75 cents,	1 75
Planting 2 days, 2 dollars; seed 50 cents,	2 50
Cultivating twice in one furrow,	1 25
Hoeing first time, 2 days for a man,	2 00
Cultivating 2d time, once in furrow,	0 75
Hoeing 2d time, one and a half days,	1 50
Cultivating 3d time, once in furrow,	0 75
Hoeing, 3d time,	1 50
Cutting up, and carting in corn, two men and team one day,	3 00
Husking and putting away corn,	2 00
Shelling by the Machine,	1 00
	$49 75
The product of such cultivation is estimsted at 70 bushels,	70 00
Corn fodder at	12 00
	82 00
Expenses,	49 75
Profit,	32 25

Farmers in general estimate the corn fodder or stover upon an acre as equal to three fourths of a ton of English hay; many consider it as equal to a ton of hay. The only instance of exact measurement which I have met with is from a Pennsylvania farmer. On corn yielding 66 bushels to the acre, there was obtained of

	Tons.	Cwt.	lbs.
Blades, husks and tops,	1	6	13
Stalks or buts,	1	7	00
Total,	2	13	13

The stover of the Pennsylvania corn, which is a gourd-seed variety, would probably yield from a third to a half more than ours in weight; yet our stalks being smaller, more of the fodder in proportion would be consumed by the cattle.

I have dwelt thus largely upon the crop of Indian corn, because I deem it among the most valuable crops that can be raised among us. It constitutes a nutritious food for man and beast. With the exception of the clayey, wet, and frosty soils, no crop is more adapted to general cultivation. In the emphatic but just language of a Virginia farmer it is "Meal, Meadow and Manure." It is a comparatively certain crop. There has been no general failure of the corn crop until within the last two years, since the year 1816, when a frost occurred every month in the year. In the last two years, however, fields have ripened perfectly where an early variety was planted. The Pickwacket corn, an early eight-rowed variety, highly productive, and yielding under good cultivation, 70 to 80 bushels to an acre, has been sound and good in many places within the county the present year; and even in the interior of New Hampshire, from which it was brought. The Dutton or Sioux corn, a large twelve-rowed variety, has likewise ripened in favorable locations. This is a valuable variety abating the size of the cob. We have ascertained by repeated trials, made with as much exactness as the case admitted, that in thickly set ears, the amount of grain upon a large cob bore an equal proportion to the size of the cob, with that found in smaller varieties. The objection to the large cob is the quantity of moisture contained in it, in consequence of which it is liable to become heated and mouldy in the bin, though the exterior may appear bright and sound. It is a crop of lasting value, and may be kept in a sound state for years. I have in my possession an ear of corn grown in 1806, as sound as in the year of its growth; and some kernels of the same product, planted the last year, came up well. There is no crop, according to its weight, which will produce more beef, mutton or pork. There is none, where the produce is consumed on the place, which returns more manure to the land. There is none, which may be planted successfully, more frequently on the same land. I know an instance of its repetition thirty-seven years in forty, and without any diminution of the product. There is none which affords a better preparation for laying down land to grass, as some decisive experiments, which I shall hereafter detail, will show. There is none, all the processes, in the management of which are more simple and certain.

On the Means of Increasing the Fertility of Land.

The productiveness of any soil, we think, depends entirely on its natural or artificial capability of retaining and transmitting its moisture, the vehicle at least by which nourishment is conveyed to plants. This productive power may therefore not only be continued in its greatest vigour, but greatly increased by proper management. When we by any means give to the soil a permanently increased vegetative power, we also increase the yearly produce which it yields.

Some soils produce large crops often repeated without manure, five crops of corn and a fallow are the conditions entered in some leases in the neighborhood of Wisbeach in Lincolnshire, while other land will produce nothing without great expense of culture and manure, nor will an excess of manure make such land permanently productive; but if we change its constituent parts by the addition of those earthly materials of which it is deficient, so as to bring it nearer to the nature of those soils which we know to be fertile, than we shall permanently increase its productive powers.

Water being the vehicle by which nourishment is conveyed to plants, the soil, whose constituent parts is best adapted for retaining a sufficient supply and transmitting a proper portion in very dry weather to the plants growing in it without holding it in injurious quantities in the time of very wet weather, is possessed of the principle of vegetation and will be found to be of the most productive nature. Such a soil will give not only firmness to support the plants, bu t will facilitate the growth of their roots in search of moisture and nourishment to the greatest depth.

There is not an individual who cultivates a garden and who exercises his judgment in its culture, but knows that the addition of clay gives cohesion to sandy or gravelly soils, and that sand and gravel when mixed with a clayey soil diminishes its tenacious property; and that these changes thus effected permanently increase the productive powers of both.

In our endeavor to improve barren soils, we should examine them in connection with fertile soils in their neighborhood, on the same geological formation, and the difference of their constituent parts may lead us to the means of their improvement. If the cause of sterility be owing to some defects in their composition, these defects should be supplied. An excess of silicious sand is improved by the application of clay, peat earth, or calcareous matter, cold well rotten manure, and rolling or trampling with sheep or other stock, to consolidate its texture.

When clay is in excess, it is remedied by the application of sand, chalk marl, or burned clay, light unfermented manures, and perfect pulverization, to make the soil friable. An excess of vegetable matter as in peaty soils, in a dormant state is corrected by burning, by the application of clay, sand, calcareous matter, gravel, rubble, or anything heavy, to give firmness to the soil. Lime not only destroys the injurious effects produced by sulphate of iron which abounds in some soils, particularly in those of a peaty and silicious gravelly nature, but is said to convert the sulphate of iron into a manure. None of these applications however, will have the desired effect, unless there be first a perfect subsoil drainage of all superfluous moisture conjoined with a perfect tillage. To alter the nature and properties of the constituents of any soils may be more expensive than to manure it; but the effect of the former will be lasting, while that of the latter is transitory; the one permanently improves the nature and quality of the soil, the other only imparts a temporary excitement to force a crop for a year of two.

The materials necessary for the permanent improvement of the soil are seldom far off, and the expense, though in some instances considerable, is soon repaid by the permanency of its increased fertility; the manure applied afterwards has a much greater effect, the expense of cultivation is greatly diminished, and the capital laid out is soon restored by its yearly increased produce. By these alterations we store the earth with hidden and inexhaustible treasures, which invisible to the eye put forth their strength and give us the evidence of their presence by the effects produced on vegetation.

In the process of vegetation, nature supplies soil, water, light, and heat; but the matter composing the soil may not be in such a state as to receive, and transmit these in such quantities as will produce a healthy vegetation.

Man may regulate the supply by cultivation, and by altering the texture of the soil.

When the materials of which the soil is composed are in proper proportion, the soil is most productive; when any one of the ingredients is in too great a proportion, the soil is unproductive.

Pure clay, silex, or lime, we have before stated, are barren, if they are found alone; but if they are mixed together, having a due portion of water, the influence of the sun, and a proper admission of air, (which are the prime movers in vegetable life) a fermentation amongst the materials is created; and if vegetable and animal manure in a state of decomposition be combined with these, the soil which was sterile when separate will become productive when combined, and this mixture of materials and mechanical alteration will change the texture, and improve the quality of the soil.

Neither the clay, the silex, nor the lime are decomposed by this process, but the soil composed of these materials in proper proportions has the power of combining with, and decomposing the vegetable and animal matter, the water, and air which it contains, and produce results which afford the necessary food for the growth of plants.

When the particles of earth which compose the soil are separate from each other, or well pulverized, it holds the greatest quantity of free or available moisture, and readily transmits it to the plants which are growing in it; but when the particles of the earth are closely packed together, like new made bricks, it neither can receive moisture, nor will it give out that which it already possesses.

Good soils are naturally possessed of certain powers, with which, by the aid of husbandry, we can produce certain effects; on poor sterile soils, these powers may be conferred by artificially altering their texture.

When the fluid in the soil is so connected with the fluid in the plant, and gives out to it a constant and healthy supply, then we say the soil is in good condition.

Manure applied to the soil increases its vegetative powers, but the way in which it acts is not well understood. The processes of the small rootlets are so very minute, that no crude substance can pass through them; it can therefore, only be taken up by them in the form of water or gas, and be absorbed by the leaves.

Well rotten manure gives an unctuous or cohesive property; but when in a loose or strawy state, it gives a porousness or looseness to the soil.

All mineral manures, as lime, chalk, marl, sand, gravel, ditch mould, road scrapings, and earthy matter, act on the soil merely as an alterative, by changing the constituents of the soil and improving its texture, and by giving it an increasing power of imbibing and decomposing water, air, and organic matter.

The most abundant ingredients in soil are sand and clay, and as a mixture of the one with the other tends to improve both, nature has so ordered it, that these are generally found in great abundance near to each other.

In the plastic clay formation, extensive tracts of sandy soil are found lying upon the brick clay; the soil of which is greatly improved by lifting up the clay, and spreading it over the sand at the rate of 100 cubic yards to the acre.

There is also a considerable extent of this formation covered with flinty gravel, mixed with clay and sand, with a thin covering of black mould or peat earth for its surface, which produces heath and furze.

This lies near the clay, and the whole of this may be greatly improved by trenching, or otherwise mixing the sand and gravel with the clay below. The most of this is near the chalk, and would be greatly improved by an admixture of 80 or 100 cubic yards of it per acre. Chalk or lime destroys the pernicious effects of the sulphate of iron in the gravelly soil, and makes the soil which was worthless, so productive as to pay the whole of the expense in a year or two.

Soil that is chiefly composed of finely divided or impalpable matter, is greatly improved by the application of small stones, gravel, or coarse sand; as this prevents the soil from collapsing or consolidating during continual rain.

All alteratives should be put on the land in small quantities at a time. or if in large quantities it should be when the land is in fallow; and these should be well mixed by repeated ploughings, or by Finlayson's harrow, which is an excellent implement for loosening and breaking the fallow slice. The best way of putting on small quantities of materials for altering the texture of the soil is to make a mixture of them with the manure you intend to apply to the field; and these ought to be well mixed by laying them loose together, turning them several times, and fermenting them in the mass. When this is properly done, it should be carted and spread on the soil when in fallow, and be ploughed in and well mixed, so as to be completely incorporated with the soil.—*Morton on Soils.*

Broken Skin.—Powdered charcoal made into a paste with water and applied to any sore place, caused by the skin being rubbed off, will immediately allay the smart and remove inflammation.

For the New England Farmer.

Sowing Corn Broadcast---Summer Soiling, &c.

Mr. Editor—By *summer soiling* European writers mean the cutting of green food for cattle and feeding it out without curing. And European writers frequently enlarge upon the advantages of this practice.

Some of the advantages of summer soiling are said to be the following:—The same ground will furnish food for cattle, in the proportion of from 3 to 5 by summer soiling; where but one would be kept without it.

The cattle kept in well shaded yards, or well ventilated stables will be guarded from the biting flies, and the scorching sun, and will feed in comparative comfort, and of course will thrive on a smaller amount of food. By summer soiling also the quantity of manure may be greatly increased, and may be used at any time and place which is desired. The keeper will find however, that it is somewhat more laborious to cut green food, and to place in the mangers before the cattle, than it is to turn the cattle into the field and let them select and trample down for themselves. But in this country there seemed to be a difficulty in finding a *succession* of green crops for summer soiling through the season, particularly in the latter part of summer. To obviate this difficulty a gentleman of New London, Conn. sowed southern, long kernelled, or horse tooth corn. This corn came on after the first crops of grass were gone, and it came on too at a time when pastures were frequently dead or dried up. I have now been a number of years in the practice of sowing horse tooth corn, broadcast, for summer soiling, and the following experiment made two years ago, was attended with results very similar to the common results of experiments made in other years:—

Experiment.—On the 15th June, 1836, about 16 square rods of ground which had been well manured, and well ploughed, were sown broadcast with horse tooth corn, at the rate of four bushels of seed to the acre. The seed was then lightly ploughed in with a small horse plough, after which the ground was harrrowed and rolled.

On the 19th of August following we began to cut upon the crop of corn stalks which grew on the above described ground. The crop which grew from the 16 rods of ground before mentioned afforded forage for a horse from the 19th of August to the 8th of October, and also afforded the principal part of the food for a cow from the 5th September to the 8th of October. Making 50 days keeping for the horse and 33 days for the cow.

On the 6th of September when this corn was five or eight feet high, but had not *eared* or *tasselled* out, the produce of one square rod was cut up, and while green it weighed 375 lbs. This was at the rate 30 tons to the acre. This 375 lbs, which was cut from one square rod of grain was dried and on the 27th October 1836, it weighed 86 1-4 lbs. which is at the rate of 13,000 lbs. or 6 9-10 tons to the acre.

An acre of horse tooth corn, sowed in this way on good ground, would probably afford green forage for 30 cows a month, or for eight horses the same length of time. And we think such a crop of corn stalks, is far superior to any crop of guinea grass, or cow cabbage, which we could reasonably expect to grow in this country. It is proper to remark here however, that in order to make the horse active and strong for business a little provender is very useful.

While the horse was eating the corn stalks as before mentioned, he was allowed two quarts of shelled corn per day, and with this allowance he was more active and strong for business than when he had his two quarts of shelled corn, and as much good dry hay as he would eat. I may add, that though cows eat the green corn stalks voraciously for the first two or three days, if kept wholly on the green stalks they are apt to get cloyed, and afterwards not to eat as well. The stalks are not easily cured into good dry fodder.

The advantages of sowing the horse tooth corn, instead of some of the smaller sorts, are, the horse tooth corn being a taller kind makes a much greater amount of fodder.

It is a later kind, and therefore keeps green, and in a fit condition to be foddered out much larger, than the earlier sorts.

There is considerable difference in the sweetness of the stalks of the different kinds of corn. And it might be worth the attention of Agricultural philosophers, to make experiments to decide, not only which kind of corn stalks yields the greatest number of pounds to the acre, but also which yields the greatest amount of nourishment to the acre.

For those who are apt to be short for summer pasture, particularly in August and September, will not the cultivation of a patch of horse tooth corn, sown broadcast be found to be a matter of considerable practical imporance? yours, respectfully,

East Haddam, 15th August, 1838. Asa M. Holt.

To Preserve Cranberries.—Dry them a little in the sun, then put them into dry bottles and stop them closely. In this manner, it is said that they may be preserved for years.—*Ib.*

From the Caltivator.

HOUSEHOLD ECONOMY.

Dear Sir—Your Cultivator is particularly designed to promote improvements in husbandry. I presume you are equally desirous to aid housewifery.

We often hear lamentations of the loss of fat saved for making soap, by its being in an offensive and spoiled condition, and eaten by maggots—sometimes of the loss of the fat eaten by rats. None of these happen about my house; nor is the fat boiled in ley to make soft soap.

The fat, as it is saved, is put into a cask prepared, and strong ley added to it. As the fat increases, ley is added, and occasionally stirred by a stick kept in it. When the cask is full, the soap is made and ready for use.

The ley cask is filled with ashes for leeching, and drawn off to add to the soap cask, as stated above. When the ley has been drawn off, and by filling with water and draining, it becomes weak, it is used for bleaching, &c.

When the ley cask is emptied it is filled immediately with ashes, to be used as above mentioned, so that the cask is always in use, by which means it is kept in order, and lasts many years. When left empty, as some persons practise, it shrinks and soon becomes useless. Some quick lime put into the ash cask, near the bottom, causes the ley to be more caustic.

Cedar and white pine make the best casks for ley or soap. The pine should be free from knots and resin, as the ley will incorporate with the resin, convet it to soap, and leave the wood porous and leaky.

When soap has accumulated beyond the wants for soft soap, it is converted into hard soap, by adding one quart of fine salt to three gallons of soap, boiled and put into a tub to cool; then cut it into pieces, scrape of the froth, &c.; then melt it again, (leaving out the ley at the bottom,) to a boiling heat, and put it into a box to cool, and cut into bars for drying. A little resin or turpentine added before boiling, improves the color and quality of the hard soap.

This mode of making soap relieves from the pagan practice of boiling soap at a *certain stage of the moon.*

If you think the above will be of much use, you may give it to the public. Most respectfully,

David Tomlinson.

Schenectady, July 27, 1838.

Tuck in your ruffle.—"We have a few nails to make," said a blacksmith to his son as he come from school at 12 o'clock. Thomas tucked in his ruffle and took of his coat, and was a blacksmith till he earned his dinner, and eat it with a good relish. "Put out your ruffle, Thomas, it is schoot time now," said the father.—This is the picture of the day; but it would answer jnst as well for a good many others. Thomas expected it;—and was as happy with his ruffle tucked in, as his mates at their play.

It would be no bad notion, "in these hard times" for many a young man *to tuck in his ruffles*, and swing an axe, or hold a plough, or make a nail—for many a young man, whose expectation of riches from the gains of trade are sadly disappointed to earn a living in some calling which the world honors less but pays better—some humble occupation, which while it holds out no delusive hope of immense wealth by a single speculation, assures him of competent food and raiment.

We would here recommend Agriculture, in a special manner. Not such farming as consists in first running in debt for lands and mortgaging them back for payment; and then borrowing money to put up fine buildings, and then hiring men to carry on the farm. No! this is not the way. But lay your own shoulder to the wheel—tuck in your ruffle, and earn your bread by the sweat of your brow. It will be the sweetest you ever ate.—*Franklin Farmer.*

From Hillyard's Practical Farming and Grazing.

The Turnep Fly.

After numberless trials to prevent the ravages of the turnep fly, the only way which I found at all successful is, to collect all the weeds I can on the farm, and lay them in heaps all round the field sown with turneps; on the plants coming up, and showing the least appearance of being attacked by the fly, the heaps to windward are set on fire, brimstone is put in the fire, and thus the strong smoke, which is very offensive to the insect, is wafted over the crop. If this is continued till the turneps get into rough leaf, they will be safe; but if before this the process is stopped for five or six hours together, in a fly working day, the crop most likely will be lost; therefore I have not scrupled on a Sunday to have the fires lighted before the morning, and also before the afternoon service. When, some years ago, I mentioned my smoking-fly preventive scheme, after dinner, at our Society's Annual Meeting, I got a little smoked myself; but having had, last year, a full crop of Swedes, which was a very rare sight, I have had the satisfaction this year (1836,) to see my plan adopted on the farm of the Noble Patron of our society, and on many other farms in the country. I think my smoking plan might be serviceable to protect hops from the insects which attack them. The fly commences, and ceases to commit its depredations, at such different times, in different seasons, that no one can with any degree of certainty fix the time for sowing, when the crop shall be least likely to be injured. The fly likes only the smooth seed leaf of the turnep, if that is eaten, the plant dies. Where they cannot meet with seed-leaves, they will eat holes in the rough leaf, but they cannot thus destroy the plant. When corn crops are mowed, they will then prey on the young clover plants. No one has yet been able to prove where the fly is produced. Some assert that it comes out of the earth; others that it is bred in the seed. I made an experiment two years ago, which satisfied me and all those I showed it to, that it comes out of neither. When my turneps were sown, I covered a piece of land with a large square of thin gauze, which I so fastened down that no insect could creep under it. Under the guaze, the turneps were not touched by the fly; all round it, they were eaten and destroyed by it. Where the insect is generated, is not known: it flies in the air like other insects, and although it may appear strange to us, it has the power to discover that there is food for it as soon as the turnep leaf appears above ground. I have dwelt long on the cultivation of mangel wurzel and turneps; but I trust that the generaliy of my readers will so agree with me as to the great value of these crops as not to think me tedious.

To Preserve Pears, Plums, &c. for Tarts and Pies.

Gather them when full grown and just as they begin to turn. Pick one third of the largest out and put to them as much water as will cover them, boil and skin them.—When the fruit is boiled soft, strain it through a coarse sieve, and to every quart of this liquor put a pound and a half of sugar; boil and skim it, and then throw in your fruit; just give them a scald, take them off the fire, and when cold put them into bottles with wide mouths, pour your syrup over them, lay a piece of white paper dipped in sweet oil over them, and cover tight.

Economical people will not, of course, think of either making or using many preserves, on account of the expense, and the rigid adherent to the teachings of experience will generally avoid them because they are unhealthy. In sickness, however, they are frequently very grateful, particularly in pulmonary complaints, and most people who are well, like occasionally to taste of good preserves.

We have before published the following directions, but in this place the information may be of value, as it will lessen the expense of making preserves. Take 8 lbs. molasses—bright New Orleans or Sugar house—8 lbs. pure water, 1 lb. coarsely powdered charcoal; boil for twenty minutes, then strain through fine flannel, double; put it again in a kettle with the white of an egg, and boil gently till it forms a syrup of the proper consistence, and strain again. This syrup is said to be better for preserving fruit, &c. than a syrup prepared from the best loaf sugar, as it is not so liable to candy, nor to ferment.—*Ib.*

CATTLE FEED.

To the people of the Eastern States, it may appear incredible, that cattle actually thrive as well or better here in the *woods*, than in the best clover and timothy of any state; such we believe is the unvarnished truth.—This fact is mainly to be attributed to the vast abundance of the wild pea that starts early, grows large and luxuriantly, and furnishes cattle with excellent feed until about the first of July; when the wild bean succeeds it, and supplies succulent food in great profusion until late in the fall. Besides these, there are some kinds of grasses that flourish to some degree, and the greatest variety of other herbage we have ever observed in any country. Here the lover of the science of botany has a grand field for the exercise of his patient, and delightful, as well as useful investigations. Here the votary of Flora can procure from nuture's own gardens, varieties to compose the richest bouquets, and can for months in succession gratify his taste with flowers, worthy of a place in the most splendid gardens.—*Wisconsin Culturist.*

Tomato Pies equal to the fine English Gooseberry Pies.—The other day we partook, for the first time, of a Tomato Pie, and were so much pleased with the treat, that we enquired into the mode of making them. The tomatoes are skinned, sliced, and after being mixed with sugar, are prepared in the same manner as other pies. The tomato is likely to become one of the most useful of plants.—*Springfield Pioneer.*

Remedy for Heaves in Horses.

Take 1¼ pound of good ginger, for a horse. Give 2 table spoonfuls a day—one in the morning and the other in the evening, mixt with wheat bran.

This receipt has been selling at $5 to the east-ward, where the efficacy of the above medicine has been proved in the cure of several cases of obstinate heaves.

Practical Effects of Draining.

The system of draining introduced into Scotland some years ago, and proceeding so rapidly, must be regarded as the greatest improvement of modern times. The landlord and farmer do it jointly. Here is a safe investment for money—the expense repaid in twenty years, regular interest, and the land improved in value above one-third. Green crops are grown in great abundance after draining, where no attempt could be made before, and the farmers allow they have four crops in three years, and the draining pays on an average eight per cent. I know an instance of a wet clay soil, almost covered with rushes, being drained and improved at an expense of £15 an acre ($65;) the green crops were so productive as to repay the expense in one year, and after deducting the old rent, the improvement pays fourteen per cent upon the outlay. The drains are from 20 to 30 inches deep, and at the distance of from 12 to 20 feet, sometimes in the furrows of the field, or across, or obliquely, as the descent may suit, and sometimes the land is laid flat. Draining, to be remunerative, must be done effectually. A field cannot be drained by putting a drain in a corner, one here and another there; by running one across the field, and another diagonally to that. It must be done completely, or not at all, for half measures are ever useless.—*Qr. Jour. of Agriculture.*

It is said to be a curious fact, that no other insect whatever but the silkworm, feeds upon the mulberry tree. Various caterpillars have been put upon these leaves, but they have always rejected them. Even the Alphides, some species of which are found on every other plant, have never been discovered on the mulberry.

Morus Multicaulis.

THE subscribers are prepared to furnish Chinese Mulberry, or Morus multicaulis trees, in large or small quantities, delivered any time this fall after the first of October, or they will contract them delivered in the spring.

The trees were raised in this climate from layers, are from two to three feet high, of thrifty growth and matured wood, and will be sold at the lowest prices, in proportion o their size.

October and November are the most favorable months to transport them to the Western states or into Canada, or in any direction where they must be sent a distance by water communication.

Applications for Trees may be made at the Green House on Sophia-street, where they will be kept, or at the Seed Store in the Arcade; and orders from a distance, by mail, should be sent early, addressed to

REYNOLDS & BATEHAM.

July 28, 1838. *Rochester, N. Y.*

600,000 SPLENDID TREES of the genuine Morus Multicaulis, being the most extensive collection in the Union, are now offered for sale, deliverable as soon as the season will allow. These trees will be of fine size, and the wood here attains a degree of maturity and development, calculated to ensure success. The prices will be lower than they can be obtained elsewhere in the United States; and priced catalogues of these, and of all Fruit and Ornamental Trees and Plants, Green-house Plants, Bulbous Flower Roots, spendid new Dahlias, and Garden, Agricultural and Flower Seeds will be sent to every one who applies for them, by mail or otherwise.

Also for sale, 30,000 Morus Expansa, a most unrivaled variety for northern latitudes, being very hardy, and producing very large leaves and the finest silk; of this variety, there are no trees for sale in the Union, except this parcel; 50,000 Dandolo, called "Chinese" at Northampton; 15,000 Rose of Lumbardy; 12,000 Pyramidalis; 25,000 Brussa, mostly of large size; 50,000 Canton, and several other varieties of Mulberry.

Also, now offered for the first time, 25,000 of the new Hybrid Multicaulis varieties, originated from seed, with very large leaves, much resembling the parent, and forming roots from layers and cuttings with equal rapidity, being very hardy.

The greater part of these trees are of larger size than are usually sold; and the Morus Expansa Trees are three to nine feet high, suitable for producing immediately immense crops of leaves.

Twenty pounds of Silk Worm Eggs of the largest white two crop and straw colored species.

Garden seeds will be supplied by the pound or bushel; besides which they will be supplied to any extent put up in assorted boxes aud neatly labelled, suitablo for retailing, at $6 per 100 papers, and 25 per cent discount to venders, and 6 months credit.

WILLIAM PRINCE & SON,

Proprietors of the Linnæn Gardens and Nurseries.

Flushing, Aug. 25, 1838.–2t

Red Clover Seed,

A FEW bushels just received, for sale by

June 23. REYNOLDS & BATEHAM.

SHEEP.

FOR SALE, at a bargain, to close a concern, a small flock of pure old fashioned Merino Ewes; also, a few pure Bakewell Ewes, and a mixed flock of South Down, Merino, and Bakewell.

Buffalo, Sept. 1, 1838.–w4m1 A. B. ALLEN.

Sale of Impoved New Leicester Sheep.

40 EWES and RAMS of this celebrated breed will be *Sold by Auction* at the old Norton Farm, East Bloomfield, 5 miles west of Canandaigua, Ontario Co. N. Y., on Wednesday, the 17th of October next; some of which are of those imported in 1834, and the remainder from the said stock breed upon the farm of their present owner: by whom the former were selected from the flocks of the most ancient breeders in England. They will be sold without reserve, either singly or in such lots as purchasers may wish. Liberal credit will be given on approved notes or good security.

September 1, 1838. THOMAS WEDDLE.

SAXONY SHEEP FOR SALE.

40 RAMS & 60 Ewes of the pure Electoral Saxon Race. The subscriber imported 100 yearling Ewes and a number of Rams in 1827 which were selected by himself from the purest race in Saxony, and with which he commenced his flock, and not only mantained them in all their purity of blood, but improved them in size, symmetry of form, and quantity and quality of wool. The above number of Ewes will either be sold or let for a term of years, and can be increased to 75 or 80 if desired.

H. D. GROVE,

Buskirks Bridge Post Office, Washington Co. N.Y.

August 25, 1838–3m*

SUGAR BEET SEED.

THE Subscriber has now for sale 800 lbs. of the White French Sugar Beet Seed of the present years growth. Great pains have been taken in its cultivation, and the seed will be warranted equally as good, if not better than the imported. A quantity of the seed was put in the ground since they ripened, and every one germinated and grew. Those wishing to purchase are requested to forward their orders previous to the close of navigation. All communications on the subject, and of raising the beet, will be promptly attended to. Address the subscriber, as Post Master, Royalton, Niagara county, N. Y

SHERMAN M'LEAN.

September, 1, 1838.–w3m1

MULBERRY TREES.

200,000 GENUINE Mulberry Trees, and as many more as may be wanted, of the most approved kinds—consisting of the best selected varieties now in use for cultivation, feeding worms, and making silk; being acclimated to this country, and adapted to either warm or cold climates, affording a rare opportunity for Companies or individuals to be supplied, from the most extensive collection of Mulberry trees ever seen in any village within the United States.

Autumn is decidedly the best time for removal, and orders left with

Messrs. I. B. Colt, Sec'y of the Connecticut Silk Manufacturing Company, Hartford; Alonzo Wakeman, at the office of the American Institute, No. 187 Broadway, N. Y.; Thomas Lloyd, Jr. No. 236 Filbert street, Philadelphia, Pa.; Luther I. Cox, Baltimore, Md.; B. Snider & Co. Savannah, Ga; Bliss, Jenkins & Co. Mobile, Al.; James Lyman, St. Louis, Mo.; Case & Judd, Columbus, O.; G. Harwood, Rochester, N. Y.; and the publishers of this advertisement, or with the subscriber, in Northampton, Mass.

Orders left with the above gentlemen will be promptly attended to, and each will be furnished with samples of the foliage.

Several valuable farms may be had with or without Mulberry Plantations. Apply at the office of

D. STEBBINS.

Notrhampton, Sept. 1, 1838.–10t*

Silk Business.

PERSONS who intend doing an extensive business next year with the Mulberries, can be supplied with the *true genuine Morus multicaulis* trees and cuttings, by sending in their orders early. Companies that wish to contract for large quantities, can be supplied on reasonable terms. The trees are to be well packed, so as to be sent to any part of the United States, and delivered this fall. The subscriber has been extensively engaged in the culture of silk for some years, particularly to the production of the Morus multicaulis; and will be hapyy to give any information respecting the tree or feeding the worm that may be required—silk, worm eggs, &c.

All letters will meet with immediate attention if assingned to EDWARD H. ARNOLD.

Burlington, New Jersey.

N. B. As orders are coming in now, it would be well for those in want to apply early. Aug. 1838.–3m*

Imported Sheep for Sale.

TO be sold, ten Leicester Bucks. These animals were selected from some of the best flocks in England, and imported last year by their present owner. Also, an imported Devon Bull. Apply to

JOHN COWLEN,

Aug. 4, 1838.–3t *Truxton, Cortland Co., N. Y.*

New Arrival of Turnep Seeds.

WE have just received from England a large additiona supply of TURNEP SEEDS, among which are the fol. lowing kinds:

Ruta Baga, or Yellow Sweedish,
Dale's Yellow Hybrid,
Yellow Bullock, Yellow Scotch,
Yellow Aberdeen, Red Round,
White Globe or Flat,
White Norfolk, Long Tankard,
Early White Flat Dutch,
White Stone, Yellow Stone,
Yellow Malta, Yellow Dutch.

☞ See descriptive list on page 198, current vol. Genesee Farmer. REYNOLDS & BATEHAM.

Rochester Seed Store, June 23, 1838.

Farmers' Books.

NOTICES on the Sugar Beet, containing a description of the culture and preservation of the plant; also explanations of the process of extracting its Sugar. Price 25 cts.

A Manual of the art of making and refining sugar from Beets. Price 75 cents.

Cobb's Manual on the Culture of Silk.
Chaptal's Agricultural Chemistry.
The Complete Farmer, by Fessenden.
Fessenden's American Gardener.
A Guide to Orchardists.
Smith's Treatise on the Honey Bee.
A Treatise on Cattle.
Mason's Farriery.
Barnum's American Farriery.
Vols. 1st and 4th, Genesee Farmer, bound.

For sale by D. HOYT,

Rochester, May 26, 1838. Bookseller, 6 State st.

Fruit Trees for Sale.

THE subscriber respectfully informs his friends and the public, that he has for sale at his Nursery in Rochester, Monroe county, state of New-York, a large quantity of Fruit Trees, grafted and inoculated with the most approved kinds, now fit for transplanting, which he will sell on the most reasonable terms. SAMUEL MOULSON.

April 15, 1838.

N. B. CASH will be paid for a few thousand two years old APPLE TREES.

Monroe Horticultural Garden & Nurseries, GREECE, MONROE COUNTY, N. Y.

THIS establishment now comprises over 20 acres, covered compactly with Trees and Plants in the different stages of their growth.

The subscriber offers to the public a choice selection of Fruit Trees, of French, German, English and American varieties, consisting of Apples, Pears, Plums, Peaches, Cherries, Apricots, Nectarines, Quinces, Currants, Gooseberries, Raspberries, Grape Vines, Strawberries, Ornamental Trees, Shrubs, Plants, Hardy Roses, Vines, Creepers, Herbaceous Perennial Plants, Bulbous Roots, Splendid Pæonies, Double Dahlias, &c. &c.

Also, a large collection of Green House Plants, of choice and select varieties, in good condition.

Orders respectfully solicited. Trees and Plants, when ordered, are carefully selected and faithfully packed, and if desired, delivered on the Canal, one mile from the Nursery, or at Rochester.

Orders for Mr. Rowe's Nursery received by the publisher of this paper.

Catalogues will be sent to every applicant, gratis, or may be had by calling at the office of the Genesee Farmer.

April 1, 1838. ASA ROWE.

ELECTION NOTICE.—*Sheriff's Office, Monroe County, Rochester, July* 19*th*, 1838.—A general election is to be held in the county of Monroe, on the 5th, 6th and 7th days of November next, at which will be chosen the officers mentioned in the notice from the Secretary of State, of which a copy is annexed.

DARIUS PERRIN, *Sheriff.*

State of New-York, Secretary's Office, Albany, July 16*th*, 1838.—SIR: I hereby give you notice, that at the next General Election in this State, to be held on the 5th, 6th and 7th days of November next, a Governor and Lieutenant Governor are to be elected.

I also give you notice, that a Senator is to be chosen in the Eighth Senate District, in the place of Isaac Lacy, whose term of office will expire on the last day of December. JOHN A DIX, *Secretary of State.*

To the Sheriff of Monroe county.

N. B. The Inspectors of Election in the several towns in your county, will give notice of the Election of a Representative to Congress from the 28th Congressional District. They will also give notice of the Election of Members of Assembly, and for filling any vacancies in county officers which may exist. July 28, 1838.